TROUBLESHOOTING GUIDE

NOTE

○ *This troubleshooting guide is not exhaustive and does not give every possible cause for each problem listed. It is meant simply as a quick guide to assist you in troubleshooting for some of the more common difficulties.*

Starting failure or difficulties –

Engine does not turn over
- Valve seized
- Valve lifter seized
- Cylinder or piston seized
- Crankshaft seized
- Connecting rod small end seized
- Connecting rod big end seized
- Camshaft seized
- Transmission gear or bearing seized
- Kick shaft return spring broken
- Kick ratchet gear not engaging

Fuel does not flow
- No fuel in tank
- Fuel tap turned off
- Tank cap air vent obstructed
- Fuel tap clogged
- Fuel line clogged
- Float valve clogged

Engine flooded
- Fuel level too high
- Float valve worn or stuck open
- Wrong starting technique (when the engine is flooded, kick with the throttle fully closed by pulling the hot starter lever in.)

Spark missing or weak
- Spark plug dirty, broken, or gap improperly adjusted
- Spark plug cap or high-tension wiring defective
- Spark plug cap not contacting properly
- Spark plug type incorrect
- Crankshaft sensor defective
- CDI unit defective
- Ignition coil defective
- Engine stop switch wiring defective
- Ignition coil resistor defective/disconnected
- Flywheel magneto damaged
- Neutral switch defective
- Wiring shorted or interrupted

Fuel-air mixture incorrect
- Idling adjusting/pilot screw improperly adjusted
- Slow jet or air passage clogged
- Air cleaner element clogged, poorly sealed, or not installed
- Starter jet clogged

Compression low
- Spark plug loose
- Cylinder head insufficiently tightened
- Cylinder nut loose
- Cylinder or piston worn
- No valve clearance
- Crankshaft oil seal leak
- Valve spring broken or weak
- Valve not seating properly (valve bent, worn, or carbon accumulation on the seating surface)
- Piston ring worn, weak, broken, or sticking
- Piston ring side clearance excessive
- Cylinder head gasket damaged
- Cylinder head warped
- Cylinder gasket damaged

Poor low-speed performance –

Spark weak
- Spark plug dirty, broken, or gap improperly adjusted
- Spark plug cap or high-tension wiring defective
- Spark plug cap shorted or not contacting properly
- Spark plug type incorrect
- CDI unit defective
- Ignition coil defective
- Crankshaft sensor defective
- Flywheel magneto defective
- Wiring connector not in good contact

Fuel-air mixture incorrect
- Idling adjusting/pilot screw improperly adjusted
- Slow jet, Needle jet or air passage clogged
- Air cleaner element clogged, poorly sealed, or not installed
- Starter plunger stuck open
- Carburetor fuel level too high or too low
- Fuel tank air vent obstructed
- Carburetor holder loose
- Air intake duct loose
- Hot starter stuck open
- Fuel tap clogged

Compression low
- Spark plug loose
- Cylinder head insufficiently tightened
- Cylinder nut loose
- Cylinder or piston worn
- Piston ring worn, weak, broken, or sticking
- Piston ring side clearance excessive
- Cylinder head gasket damaged
- Cylinder head warped
- Cylinder gasket damaged
- No valve clearance
- Valve spring broken or weak
- Valve not seating properly (valve bent, worn, or carbon accumulation on the seating surface).
- Decompression trouble

Other
- Engine oil viscosity too high
- Brake dragging
- Ignition timing incorrect
- Engine oil level too high
- CDI unit defective
- Drive chain trouble
- Engine over heating
- Clutch slipping

Poor or no high-speed performance –

Firing incorrect
- Spark plug dirty, damaged, or gap improperly adjusted
- Spark plug cap or high-tension wiring defective
- Spark plug cap shorted or not contacting properly
- Spark plug type incorrect
- CDI unit defective
- Ignition coil defective
- Crankshaft sensor defective
- Flywheel magneto defective
- Wiring connector not in good contact

Fuel-air mixture incorrect
- Main jet clogged or wrong size
- Jet needle or needle jet worn
- Jet needle clip in wrong position
- Carburetor fuel level too high or too low
- Air jet or air passage clogged
- Air cleaner element clogged, poorly sealed or not installed
- Starter plunger stuck open
- Fuel supply to carburetor insufficient
- Fuel contaminated with water or foreign matter
- Fuel tank air vent obstructed
- Carburetor holder loose
- Air intake duct loose
- Fuel tap clogged
- Fuel line clogged
- Hot starter stuck open
- Needle Jet or air passage clogged

Compression low
- Spark plug loose
- Cylinder head insufficiently tightened
- Cylinder nut loose
- Cylinder or piston worn
- Piston ring worn, weak, broken, or sticking
- Piston ring side clearance excessive
- Cylinder head gasket damaged
- Cylinder head warped
- No valve clearance
- Valve spring broken or weak
- Valve not seating properly (valve bent, worn, or carbon accumulation on seating surface).
- Cylinder gasket damaged
- Decompression trouble

Improper acceleration
- Starter plunger stuck open
- Carburetor fuel level too high or too low
- Main jet clogged
- Throttle valve does not fully open
- Air cleaner element clogged
- Muffler clogged
- Fuel contaminated with water or foreign matter
- Brake dragging

- Clutch slipping
- Engine overheating
- Engine oil level too high
- Engine oil viscosity too high
- Crankshaft bearing worn or damaged
- Ignition timing incorrect
- Crankshaft sensor defective
- Hot starter stuck open

Knocking
- Carbon built up in combustion chamber
- Fuel quality poor or type incorrect
- Spark plug type incorrect
- CDI unit defective

Engine overheating –

Firing incorrect
- Spark plug dirty, broken, or gap improperly adjusted
- Spark plug type incorrect
- CDI unit defective

Fuel-air mixture incorrect
- Main jet clogged or wrong size
- Carburetor fuel level too low
- Carburetor holder loose
- Air cleaner element clogged, poorly sealed, or not installed
- Air intake duct poorly sealed
- Hot starter stuck open

Compression high
- Carbon built up in combustion chamber

Engine overloaded
- Brake dragging
- Clutch slipping
- Engine oil level too high
- Engine oil viscosity too high
- Drive chain trouble

Lubrication inadequate
- Engine oil level too low
- Engine oil quality poor or type incorrect

Coolant inadequate
- Coolant level too low
- Coolant deteriorated

Cooling system component defective
- Radiator clogged
- Radiator cap defective
- Water pump not rotating

Clutch operation faulty –

Clutch slipping
- No clutch lever play
- Clutch cable improperly adjusted
- Clutch cable defective
- Clutch plate worn or warped
- Clutch spring broken or weak
- Clutch release mechanism defective
- Clutch hub or housing unevenly worn

Clutch not disengaging properly
- Clutch lever play excessive
- Clutch plate warped or too rough
- Clutch spring tension uneven
- Engine oil deteriorated
- Engine oil viscosity too high
- Engine oil level too high
- Clutch housing frozen on drive shaft
- Clutch release mechanism defective
- Clutch hub nut loose
- Clutch plate warped or rough
- Clutch hub spline damaged

Gear shifting faulty –

Transmission does not go into gear; shift pedal does not return
- Clutch not disengaging
- Shift fork bent or seized
- Gear stuck on the shaft
- Shift lever broken
- Pawl guide plate broken
- Shift return spring weak or broken
- Shift return spring pin loose
- Shift pawl broken
- Shift pawl spring tension lose
- Shift drum broken

Transmission jumps out of gear
- Shift fork worn
- Gear groove worn
- Gear dogs and/or dog grooves worn
- Shift drum groove worn
- Gear positioning lever spring weak or broken
- Shift fork pin worn
- Drive shaft, output shaft, and/or gear splines worn

Transmission skips gears
- Gear positioning lever spring weak or broken
- Pawl guide plate worn

Engine noise abnormal –

Knocking
- CDI unit defective
- Carbon built up in combustion chamber
- Fuel quality poor or type incorrect
- Spark plug type incorrect
- Engine overheating

Piston slap
- Piston clearance excessive
- Cylinder or piston worn
- Connecting rod bent
- Piston pin or piston pin bores worn

Valve noise
- Valve clearance incorrect
- Valve spring broken or weak
- Camshaft bearing or camface worn
- Valve lifter worn

Other noise
- Connecting rod small end clearance excessive
- Connecting rod big end clearance excessive
- Piston ring worn, broken or stuck
- Piston seized or damaged
- Cylinder head gasket leaking
- Exhaust pipe leaking at cylinder head
- Crankshaft runout excessive
- Engine mounts loose
- Crankshaft bearing worn
- Primary gear worn or chipped
- Camshaft chain tensioner trouble
- Camshaft chain, sprocket, chain guide worn
- Decompression spring broken
- Flywheel magneto loose

Abnormal drive train noise –

Clutch noise
- Clutch housing/friction plate clearance excessive
- Clutch housing gear excessive
- Metal chip jammed in clutch housing gear teeth

Transmission noise
- Crankcase bearing worn or damaged
- Transmission gear worn or chipped
- Metal chip jammed in gear teeth
- Engine oil level or viscosity too low
- Kick ratchet gear not properly disengaging from kick gear
- Output shaft idle gear worn or chipped

Drive chain noise
- Drive chain slack improperly adjusted
- Drive chain worn
- Rear and/or engine sprocket(s) worn
- Drive chain inefficiently lubrified
- Rear wheel misaligned

Frame noise abnormal –

Front fork noise
- Oil level or viscosity too low
- Spring weak or broken
- Front fork air pressure high

Rear shock absorber noise
- Shock absorber damaged

Disc brake noise
- Pad installed incorrectly
- Pad surface glazed
- Brake disc warped
- Brake caliper defective
- Brake cylinder damaged

Other noise
- Bracket, nut, bolt, etc. improperly mounted or tightened

Exhaust smoke –

Excessively white
- Piston oil ring worn
- Cylinder worn
- Valve oil seal damaged
- Valve guide worn
- Engine oil level too high

Black smoke
- Air cleaner element clogged
- Main jet too large or fallen out
- Starter plunger stuck open
- Fuel level in carburetor float bowl too high

Brownish
- Main jet too small
- Fuel level in carburetor float bowl too low
- Air cleaner duct loose
- Air cleaner O-ring damaged
- Air cleaner poorly sealed or missing.

Poor handling and/or stability –

Handlebar hard to turn
- Control cable incorrectly routed
- Wiring incorrect routed
- Steering stem locknut too tight
- Roller bearing damaged
- Steering stem inadequately lubricated
- Steering stem bent
- Tire air pressure too low

Handlebar shakes or vibrates excessively
- Tire worn
- Swingarm sleeve or needle bearing damaged
- Rim warped or out of balance
- Front and/or rear axle runout excessive
- Wheel bearing worn
- Handlebar clamp loose
- Steering head nut loose

Handlebar pulls to one side
- Frame bent
- Wheel misaligned
- Swingarm bent or twisted
- Swingarm pivot shaft runout excessive
- Steering maladjusted
- Steering stem bent
- Front fork leg bent
- Right/left front fork oil level uneven

Shock absorption unsatisfactory (suspension too hard)
- Front fork oil excessive
- Front fork oil viscosity too high
- Front fork leg bent
- Front fork air pressure high
- Tire air pressure too high
- Rear shock absorber improperly adjusted

Shock absorption unsatisfactory (suspension too soft)
- Front fork oil level insufficient and/or front fork leaking oil
- Front fork oil viscosity too low
- Front fork and/or rear shock absorber spring weak
- Rear shock absorber leaking gas
- Rear shock absorber improperly adjusted

Poor braking performance –
- Air in the brake line
- Brake pad or disc worn
- Brake fluid leaking
- Brake disc warped
- Brake pads contaminated
- Brake fluid deteriorated
- Primary and/or secondary master cylinder cup(s) damaged
- Master cylinder scratched
- Brake maladjusted (lever or pedal play excessive)